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ABSTRACT

An evaluation was conducted of business education programs for the homebound handicapped students at Queensborough Community College of the City University of New York. Classrooms that career courses were scheduled to meet in were equipped with auxilliary telephone lines and conference telephone units; and specific course-related equipment was placed in students' homes for the duration of their courses. Students in the program were counseled periodically to determine possible problems or obstacles which needed to be remedied. Homebound students were provided with a course cutline prior to the first class session and were able to anticipate and prepare for class dicusssions and assignments. Via their portable conference telephone, homebound students could actually participate in class discussions, answer questions, and respond to in-class students. Examinations were administered on an individual basis in the homebound handicapped student's home. During the fall of 1977, thirteen faculty members instructed homebound students in a total of eleven courses. In the spring of 1978, homebound students had the opportunity to participate as class members in ten courses with twelve faculty participating. On the basis of the data obtained through interviews with homebound students and surveys of facility and peers, the program was perceived as being successful by all participants. The final grades of students attested to their ability to perform in this setting. (BM)

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EVALUATION OF A COMMUNITY COLLEGE OCCUPATIONAL EDUCATION PROJECT FOR THE HOMEBOUND HANDICAPPED

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U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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This report summarizes an evaluation of business education programs for the homebound handicapped at Queensborough Community College of the City University of New York.

Although there appears to be general agreement as to the need for providing programs for the homebound, data about the outcomes of such programs have yet to be reported. The purpose of this paper is to make a beginning in this area by presenting some evaluative data related to the outcomes of one such program. Because a program of this type affects the in-class student peers and faculty as well as the target group, interviews and surveys were designed so as to provide these views of the program.

PROGRAM DESCRIPTION

Facilities and Equipment:

Classrooms that career courses were scheduled to meet in were equipped with auxilliary telephone lines and conference telephone units, and specific course-related equipment was placed in students' homes for the duration of their courses. This equipment served to supplement the classroom-to-home telephone instruction and provided the capability for students to complete laboratory requirements associated with the vocational courses. Students in the program were counseled periodically to determine possible problems or obstacles which needed to be remedied.

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THE NEW YORK STATE EDUCATION DEPARTMENT

Procedures:

Classes met for an average of three hours a week for the 15-week semesters during the Fall 1977 and Spring 1978. Homebound students were provided with a course outline prior to the first class session and were able to anticipate and prepare for class discussions and assignments. Via their portable conference telephones, students at home had the opportunity to participate in class discussion, to answer instructors' questions, and to respond to in-class students. Students were free to call instructors at times other than class sessions to discuss assignments, clarify issues, and discuss examinations and grading. A volunteer notetaker in each class was recruited and chalkboard notes were mailed to homebound students on a weekly basis. Examinations were administered on an individual basis in the homebound handicapped student's home and were administered either by a proctor chosen by the instructor (or in some cases, a student's counselor) or on the honor system depending upon a specific student's disability and/or needs.

Faculty:

During the Fall 1977 semester, 13 faculty members instructed homebound students in a total of 11 courses. The Spring 1978 semester provided homebound students opportunity to participate as class members in 10 courses with 12 faculty participating. Faculty members volunteered to accept students from the program and were provided an orientation and constant follow-up to determine problems and obstacles which required attention.

Students:

Social vocational rehabilitation agencies responsible for providing services to the homebound handicapped and students in the New York City Board of Education's programs for homebound handicapped students were

informed of the newly devised vocational education curriculum options available at Queensborough Community College. Students were screened to determine their ability to fulfill the requirements and meet the demands of the career courses. Academic and career counseling was provided for students to insure appropriate selection of courses.

During the Fall 1977 semester, 10 students were enrolled in one or more courses. Of this student group, seven were females, three were males. Female students ranged in age from 24 to 50 years old with a median age of 43. The males in the group were 25 and 27 years old. During the Spring 1978 semester, 12 homebound students were enrolled in one or more courses. Of the Spring 1978 homebound student group, six were females, six were males. For female students the median age was 49, ranging from 24 to 55 years old. Males in this group ranged from 23 to 35 years old with a median age of 26. A listing of courses, number of sections per semester, and the number of homebound students enrolled is presented in Table 1 on the next page.

All of the students reporting were high school graduates and six had completed some college course(s) prior to admission into the program. Seven students had worked in a business-related area (secretary, bookkeeper) before becoming homebound. One student had been a dancer and dance instructor and one an auto mechanic. Only three students reported that they had no previous employment history. All but one are presently employed. The exception works with secretarial assignments at home. All students who are employed expected to complete their education and eventually enter or re-enter the labor market. Only one student indicated an interest in a health-related career. All others were pursuing

Table 1

Courses, Number of Sections with Homebound Students, and Number of Homebound Students Enrolled per Semester (1977-1978)

Course	Fall 1977		Spring 1978	
	Number of Sections	Number of Students	Number of Sections	Number of Students
Accounting I	2	2	1	1
Accounting II	1	2	2	2
Business Organization & Management	2	2	4	5
Business Law I	1	1	1	2
Business Mathematics	1	1	-	-
Computer Programming for Business I	1	1	-	-
Cost Accounting I	1	1	1	2
Elements of Marketing	1	1	-	-
Intermediate Accounting II	1	2	-	-
Intro. to Word Processing	1	1	-	-
Medical Office Practice & Transcription	-	-	1	1
Principles of Finance	-	-	1	2
Principles of Statistics	2	2	1	1
Typewriting I	-	-	1	1
Stenography I	-	-	1	1

careers in business and were enrolled in various business courses.

The number of credits previously completed by the students ranged from 8 to 70 with a median of 31 credits completed. All of the students interviewed reported their intention to continue in the program in the Fall 1978 semester.

Method:

Students in the program were interviewed by telephone to determine their reactions to their experiences with the program. Instructors of homebound students were surveyed to determine their reactions. In addition, in-class students were asked by their instructors to complete a questionnaire, administered by program personnel at the college.

In addition to questions specific to each group participating in the homebound program, perceptions of the following six aspects of the program were sought from students, peers and faculty in order to produce a cross-validated composite profile:

- helpfulness of program
- effect on faculty
- effect on student
- equipment
- participation level of homebound student
- level of questioning by homebound student

Findings

Student Interviews. Thirteen of the 15[1] students in the program were interviewed via the telephone using a semi-structured interview technique. The two remaining students were unable to be contacted after repeated attempts. The data described below are therefore based on the information

[1]One of the students who could not be contacted was in the program for only one month during the middle of the Spring 1978 semester and is therefore not considered in the subsequent analysis reported below.

supplied by thirteen respondents (87%).

Eight students reported that the equipment worked well. Of those indicating problems with equipment, most reported these to be "slight" in nature. Several students indicated an inability to hear class members as a result of microphone position and/or sensitivity. All but three students reported that they could hear without straining and eleven of the thirteen indicated that generally there was no interference in their telephone connections. Six students reported losing some portion of a lesson once or twice per semester. One student indicated that this loss was due to the number of homebound students in a class section and a section change subsequently remedied the problem.

Homebound students stated that they participated in class discussions and asked questions as frequently as or more often than other students. Of this group only one student indicated that she did not participate due to her particular physical handicap. Similarly, only one student asked no questions of the instructor during class sessions.

According to the students, the basic instructional format consisted of lecture, discussion, questions and answers with the homebound students listening and participating via the telephone. Some of these students also used the ALEX audio-visual system as a means of learning appropriate styles and entries on charts, graphs, balance sheets, etc. Others employed tape cassettes to supplement class instruction. In some instances, the instructors sent additional material in preparation for lessons and/or examinations. An in-class notetaker supplied class notes which were helpful to all but one homebound student.

All students found the course outlines very helpful and frequently used them to prepare in advance of their next session. The outlines also served to focus their study activities and to guide their review for

examinations. Student suggestions are summarized in Table 4.

Student Grades. The distribution of student grades for the 1977-78 academic year is shown in Table 2. The disproportionate number of high grades in the distribution (18 A's of 34 grades or 53% A's) indicates the high level of work turned in by the homebound handicapped students. This proportion increases considerably if the one F grade (earned by a student who was in the program for only one month) and the 7 W grades are excluded--going from 53% to 69%.

Table 2

Distribution of Grades of Homebound Students for 1977 - 1978 Academic Year

Grade	No. of Students
A	14
A-	4
B+	1
B	2
B-	2
C	1
D+	1
D	1
F	1
W	7

Faculty Responses. A total of 15 questionnaires, eight from the fall and seven from the spring, were returned from faculty participating in the Homebound program during the 1977-78 year. Six classes had two homebound students in the same course and the other nine had one homebound student. One instructor employed an individualized, independent study technique rather than the usual telephone equipment.

Of the 14 instructors using the telephone equipment, ten reported that the equipment worked well. Six instructors reported that 1977-78 telephone

equipment was an improvement over the "old" portable conference telephone units rented from Bell Telephone. Seven had no basis for comparison and one instructor felt it was about the same.

Eight instructors indicated that they altered instructional procedures because of homebound students. In general these changes consisted of more verbal explanation than was ordinarily the custom. Four of these instructors reported that they used less chalkboard work and repeated questions and class answers frequently. One instructor scheduled a one hour conference call each week with the homebound student to compensate for difficulties in class participation.

Nine instructors felt that the presence of a homebound student was neither advantageous nor disadvantageous. Four instructors considered the presence of the homebound student an advantage. Only one instructor indicated that regular students reacted negatively and appeared inhibited by having a homebound student in class.

Generally it was necessary for faculty to do extra work for the homebound student in relation to instruction and testing. Eight instructors had to prepare and mail materials, plan work on an individual basis, schedule and conduct conference calls, and administer (by proctor or on the honor system) examinations. In testing, examinations had to be corrected and critiqued out of the regular class "phase." Two instructors developed and/or used special meterials with the homebound student. These included the production of a videotape and development of individualized materials. Ten of the 15 instructors reported that they held conferences with homebound students. All but one of these employed telephone conference calls and/or mail to accomplish this task.

Eleven instructors indicated that their homebound students participated in class discussions. One student worked with an independent study

format as the instructor did not feel that the work was amenable to discussion. Only two instructors responded that their homebound students did not actually participate in class discussions. The amount of participation appeared to follow an equal distribution, with one third participating more than regular class members, one third less, and one third the same.

All of the faculty except one said they would volunteer again to teach homebound students under similar circumstances. Six reported that they could teach a larger group of homebound students with the present system. Of these, most felt they could meet the needs of two or three homebound students. Three indicated that they could not engage more homebound students in the same section of their classes. One suggested grouping five or six homebound students together in a section designed for them.

In summary, faculty members were positive in their response concerning the program. They expressed only a minor need to change instructional procedures and believed that the program was successful to homebound students and regular in-class members. Faculty suggestions are summarized in Table 4.

Peer Questionnaires. A questionnaire was distributed to students in all classes in which handicapped homebound students participated.

A total of 266 peer responses were recieved from 14 classes. The results are summarized in Table 3.

The majority of students in the total group of peers (58%) reported that they found it helpful to have a homebound student registered in their class (Item #1). Of the 104 responding "no" to the item, 34 provided comments indicating that, although they did not find it helpful to have

Table 3

Responses of Students in Classes with Homebound Handicapped

	Fall 1977		Spring 1978		Total 1977-78	
	Yes	No	Yes	No	Yes	No
1. Did you find it helpful to have a homebound student registered in your class?	61	52	83	52	144	104
2. Was the homebound student an active member in your class?	87	29	141	17	228	46
3. Were you generally aware of the homebound student's presence in the class?	94	31	134	18	228	49
4. Did the homebound student ask many questions?	57	58	83	67	140	125
5. Was there a lot of repetition on the part of the professor in order to accommodate the homebound student?	25	100	25	131	50	231
6. If response to #5 is yes: in your opinion was the repetition beneficial to the class as well?	33	0	28	7	61	7
7. Do you know the name of the homebound student in your class? If yes, what is his/her name?	99	16	130	21	229	37

a homebound student in class, neither was it a hindrance. Two students made negative comments about the presence of a homebound student.

For the most part, class members were generally aware of the homebound student's presence in their classes as reported in Item 3. Only 49 indicated that they were unaware of the homebound student's presence and six responded "sometimes." Responses to Item 7 demonstrated that class members were not only aware of homebound students but also knew their names.

Most students reported that there was not a lot of repetition on the part of the professor in order to accommodate the homebound student (Item 5). Of those reporting "yes" to this item, 90% indicated that this repetition was beneficial to the entire class as well as individual homebound students, as reported in Item 6. Individual comments indicated that in classes like Accounting, the pace and repetition intended to accommodate homebound students was very appropriate to in-class members.

General comments at the end of the questionnaire form were tabulated. Of the 97 comments, 81 were positive, 11 were negative, and 5 were neutral. Positive comments included pleasure that homebound students could further their education, an appreciation of homebound student participation, and general benefits from pace and repetition established to meet homebound needs. Negative comments included displeasure that in-class students had to take examinations in class rather than at home, like the homebound, annoyance with equipment malfunction and interference, and resentment that some homebound students were over-eager in their participation.

From these data it may be concluded that regular class members had positive feelings concerning the Homebound program and its students. Overall they experienced few if any negative reactions and saw the homebound students as active, contributing participants in their classes. Suggestions from all participants are shown in Table 4.

Table 4

Suggestions for Program Improvement

Homebound Students	Faculty	Regular Students
1. A visual component be added to the present system wherever possible.	More than one faculty member:	1. Employ more tutors to help the homebound.
2. A standard format be established for in-class notetakers to minimize problems deciphering notes.	1. A visual component be added to the system wherever possible.	2. Establish a homebound program for students with "short-term" illnesses.
3. Another microphone(s) be placed in the classroom to pick up student responses.	2. Increase in tutorial assistance to homebound students, increasing personal contact.	3. Develop a visual component for the homebound.
4. The program be expanded to four years to provide for homebound program graduates.	3. compensatory time for participating faculty to allow faculty to be available to assist homebound students.	4. Screen "regular" students before placing them in classes with the homebound handicapped.
5. A telephone headset similar to that used by telephone operators be employed to free student's hands, increase ease in communication, and improve quality of transmissions.	Individual faculty member:	5. Show the professor how to operate the equipment prior to class sessions (Fall response).
6. Homebound students be transported to class sessions at some time early in the semester to meet the professor and other class members.	1. Grouping students in section specifically intended for homebound handicapped.	6. Check equipment in the Homebound Office to eliminate faulty equipment (Fall response).
	2. Individualizing instruction especially with more able homebound to allow them to progress at their own rate.	7. Make the equipment simpler and less cumbersome for the professor.
	3. Making equipment stationary to avoid tangling.	

Recommendations

On the basis of the data obtained through interviews with homebound students and surveys of faculty and peers, the program is perceived as being successful by all of its participants. The final grades of students attest to their ability to perform in this setting.

Following are several suggestions for program continuation and expansion:

1. Provide for inclusion of a visual component to the present audio capabilities. This is particularly urged in courses where charts, graphs, lists, equations, ledgers, etc., are a major instructional tool.

2. Establish a standard format to facilitate the transfer of in-class notes to the homebound. If necessary, provide incentive to accomplish this task.

3. Increase the availability of tutors in areas of academic need and in general provide homebound students with exposure to others in academic life.

4. Provide opportunity for homebound students to visit class sessions.

5. Continue and enlarge the program:

   a) by including more students and faculty
   b) by asking some instructors to work with two or more homebound students

6. Provide some supplemental compensation for instructors of homebound students. This compensation would be for extra time and effort spent in planning and preparation of materials, evaluation of student work, and communication with students as well as motivation to engage in this activity. In addition, this might prove to be an incentive in recruiting interested faculty.

7. Make plans to provide program availability and options to Homebound Program graduates.

* * * * *

N.B.

No attempt was made to assess the cost-effectiveness of this program, and readers concerned with replication are urged to contact their local telephone company for estimates of hardware and time charges. Alternate modes of delivery (e.g., local radio or TV station cooperations) should be explored. Ultimately "communicasting" (two-way, over the air television) may reduce costs to a negligible amount.

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